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Aloidendron barberae: the world's largest tree aloe observed in New Zealand and South Africa

by Colin C. Walker

Introduction

I have a particular affinity for *Aloidendron barberae*, the world's largest aloe, since I have encountered this species several times on my travels, notably in New Zealand. Indeed some of my earliest observations of this plant were made in 2005 during my second visit to that country.

Although this is a significantly large tree reaching up to 20 m, it is somewhat surprising that compared with other aloes it does not have a substantially long nor distinguished history. In the middle of the 19th

century two intrepid Victorian explorers – Mary Barber and Thomas Baines – were each on plant hunting expeditions in what is now KwaZulu-Natal, South Africa. Each discovered tree aloes and sent plant material, drawings and paintings to the Royal Botanic Gardens, Kew. There William Thiselton-Dyer initially decided that Barber and Baines had each discovered two distinct tree aloes which he named *Aloe barberae* and *Aloe bainesii* in their honour in 1874. Later in the same year he changed his mind, having observed the growth of plants at Kew and decided that they were in fact just a single species



Fig. 1. *Aloidendron barberae* with the author on Church Hill, Nelson.
Photo: Colin Smith.

and chose *A. barberae* as his preferred name. His preference though, was long overlooked such that this species was generally known as *A. bainesii*. It was only in 1994, 120 years after the initial description, that Thiselton-Dyer's preference was rediscovered, so that the correct species name is now *barberae* (although the name *A. bainesii* is still often encountered). This early history is told and illustrated in greater detail by Carter *et al.* (2011).

The most recent name change for this species is the result of molecular studies of aloes which were conducted in the last decade. These indicated that a small number of species originally considered to be aloes are only distantly related to true aloes as exemplified by the very familiar *Aloe vera*. Six tree aloes in particular were shown to form a very distinct branch in the aloe family tree, to which the generic name *Aloidendron*, meaning 'tree aloe', was applied (Grace *et al.*, 2013). Five of these tree aloes come from southern Africa, whilst *Aloidendron eminens* is an outlier in Somalia, with a large disjunction in the distribution from the southern species. Our species with the new name of *Aloidendron barberae* is the type of this new genus, characterised by being large trees or shrubs with woody stems that are branched dichotomously (having forked branches) with smooth or fissured bark.

***Aloidendron barberae* in cultivation**

My early significant encounters with this species took place in New Zealand in 2005. I was an invited

speaker at the NZCSS Auckland convention after which I spoke at a meeting of the Nelson Branch. Whilst staying in the area I was also interviewed by Jude Petheram, a reporter from *The Nelson Mail* and to accompany the newspaper article I was photographed with a specimen of *A. barberae* in central Nelson (Fig. 1). Notice particularly that this photo beautifully illustrates the dichotomous (forked) branching which is so characteristic of this and all other tree aloes. The resulting photo appeared on the front cover of the newspaper (greatly reduced) and in the *Home & Garden* section (occupying nearly half a page) published on Friday March 10th. This was a first for me – indeed this is the one and only time I've been interviewed and photographed for a newspaper article.



Fig. 2. *Aloidendron barberae* with Marjorie for scale in Nelson.

A second encounter with another specimen of this tree aloe also occurred in Nelson. I was told of a famous specimen which I easily located (Fig. 2) and which is identified by a plaque (Fig. 3), indicating that this heritage tree was planted around 1954. This healthy large specimen clearly exemplifies that given the right growing conditions, presumably including free root room, this plant can grow reasonably quickly. It obviously thrives in the mild climate of South Island, no doubt benefitting from a generous amount of winter rainfall.



Fig. 3. The plaque on the Nelson Heritage tree aloe. Note the now out of date name.

Four years later I was in Cape Town where I had further sightings and observations of this tree aloe. A large specimen forms a dominant feature of the Company's Garden in the

centre of Cape Town (Fig. 4). Based on my height I estimate that this plant was around 9 m tall.



Fig. 4. *Aloidendron barberae* in the Company's Garden, Cape Town with the author for scale. Photo: Gideon Smith.

During the same visit to South Africa I also encountered a venerable specimen of *A. barberae* planted on the Matthew's Rockery at Kirstenbosch Botanical Garden (Fig. 5). I estimated this plant to be about 15 m tall. Van Jaarsveld & Judd (2015) record that the Kirstenbosch specimens were planted in 1922, reached 4 m tall from seed in just four years and became small trees in only 15 years – a prestigious rate of growth.

A young unbranched plant of *A. barberae* at Kirstenbosch is shown in Fig. 6. Note the large, deeply channelled leaves up to 90 cm long



Fig. 5. A magnificent specimen of *A. barberae* growing on the Matthew's Rockery at Kirstenbosch, illustrating the architectural nature of the branching pattern. Despite its size this is only about 90 years old.

with small horny brownish-tipped teeth on the leaf margins.

This then is a giant of a tree aloë, ideal for outdoor cultivation in frost-free climates. I would not recommend it as a pot grown plant where its growth rate would undoubtedly be stunted.

***Aloidendron barberae* in habitat**

I have never seen *A. barberae* growing wild, so these notes on its main features, distribution and habitat are summarised from our recent monograph of the species (Walker *et al.*, 2019). This species is iconic as the world's largest tree aloë growing up to a height of 20 m, so even the venerable specimen

at Kirstenbosch (Fig. 5) is not yet fully grown. It forms a trunk up to 3 m diameter at the base and is copiously, dichotomously branched. For a large tree the flower spikes are however only a modest size up to 60 cm tall and like the branches are dichotomously branched. The flowers are rose-pink and green tipped.



Fig. 6. A young specimen of *A. barberae* at Kirstenbosch.

It occurs near to the coast from East London in the Eastern Cape Province north to Mpumalanga Province in South Africa and also in Swaziland. Previously it had been recorded as occurring in southern Mozambique (Van Jaarsveld & Judd, 2015). However, our investigations (Walker *et al.*, 2019) clearly indicated that there are no authenticated records for this species occurring in that country and further fieldwork is required to confirm this. All Mozambican

specimens turned out to belong to its closest relative *Aloidendron tongaense*. This species differs in being a smaller tree growing to only 4–8 m tall with somewhat different yellowish-orange flowers.

Aloidendron barberae grows in forests and hillsides above major rivers in a variety of fertile soils. The flowers are clearly bird pollinated but there are few observations of named birds visiting the flowers.

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